Method for manufacturing 3-amino-2-cyclohexene-1-one, and a novel polymer ingredient and its preparation

Description of Technology: This invention relates to a method of manufacturing a polyfunctional intermediate 3-amino-2-cyclohexene-1-one (ACO), and, more particularly, a method whereby a concentrated solution of m-phenylenediamene (MPD) in acid is hydrogenated in the presence of a palladium or platinum catalyst or mixtures thereof to produce a novel bifunctional intermediate acid salt of 3-amino-2-cyclohexene-1-imine (ACI) followed by hydrolysis to produce 3-amino-2-cyclohexene-1-one. During the process it is also possible to isolate the novel bifunctional intermediate, ACI.

Patent Listing:

1. **US Patent No. 5,268,508**, Issued December 7, 1993, "Method for manufacturing 3-amino-2-cyclohexene-1-one, and a novel polymer ingredient and its preparation"

http://patft.uspto.gov/netacgi/nph-Parser?Sect2=PTO1&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&d=PALL&RefSrch=yes&Query=PN%2F5268508

Market Potential: It is the object of this invention to provide a convenient low cost process for 3-amino-2-cyclohexene-1-one which gives improved yields over the prior art and requires a minimum amount of environmentally unacceptable isolation solvents. The compounds, 3-amino-2-cyclohexene-1-one (ACO), and its substituted derivatives are valuable intermediates for the preparation of dyes, pharmaceuticals, agricultural chemicals and polymer intermediates. Another object of the invention is to isolate the previously unknown imine derivative, 3-amino-2-cyclohexene-1-imine, as a precursor to new valuable products, such as drugs, agricultural products and polymer intermediates.

Benefits:

- Convenient low cost production process
- More environmentally friendly
- Isolates previously unknown imine derivative

Applications:

- Agricultural chemicals
- Pharmaceutical industry

Contact: Ken Anderson
Director, Entrepreneurial & Small Business Support, Delaware Economic Development Office (DEDO)
Carvel State Building, 820 French Street, Wilmington, DE, 19801
Phone: (302) 577-8496, Fax: (302) 577-8499, Email: Kenneth.R.Anderson@state.de.us